groups, costs were analyzed using a propensity score model. Confidence intervals were estimated using bootstrap methods. **RESULTS:** Population in the two groups was balanced for age, gender, weight and body mass index. The groups differed significantly in terms of housing status ($p < 0.05$) and nutritional status ($p < 0.001$). Adjusted costs per patient of hospital care (–€551), nursing care (–€145) and other medical care were significantly reduced in the FNS group as compared to the LNS group, with cost savings of –€723 (90% CI: –€1.444 to –€43). Including oral supplementation costs, the total cost savings per patient attributable to nutrition support were –€195 (90% CI: –€929 to +€478). **CONCLUSION:** Appropriate nutrition diagnosis and support may contribute to reduce the costs of health care. Propensity score models are a valuable framework for the analysis of cost data, when it is not possible to conduct randomized studies.

ARTHRITIS & OSTEOPOROSIS—Economic Outcomes

PAR1

PHARMACOECONOMIC ANALISIS OF THE TREATMENT WITH LEFLUNOMIDE-METHOTREXATE OR INFLIXIMAB-METHOTREXATE IN PATIENTS WITH RHEUMATOID ARTHRITIS RESISTANT TO METHOTREXATE

Rubio Terrés C[1], Romero F[1], Burrell A[2], Domínguez-Gil A[3]
[1]Aventis Pharma S.A, Madrid, Spain; [2]Aventis, Bridgewater, NJ, USA; [3]Hospital Universitario, Salamanca, Spain

OBJECTIVE: To compare the efficiency of leflunomide-methotrexate or infliximab-methotrexate in patients with rheumatoid arthritis resistant to methotrexate. **METHODS:** Cost-minimization pharmacoeconomic model that compared treatments administered at the recommended doses and regimens during a 12-month period. Use of resources and unit costs were estimated from Spanish sources. Simple univariate sensitivity analysis was made of the base case. **RESULTS:** In two randomized, placebo-controlled clinical trials available, the ACR20 and ACR50 responses rates at 6 months were 46.2% and 25.4%, respectively, with leflunomide-methotrexate and 50.0% and 27.0%, respectively, with infliximab-methotrexate (2P = 0.57 and 2P = 0.82). The estimated cost per patient of annual treatment with leflunomide-methotrexate or infliximab-methotrexate is €2,823 versus €11,489, respectively (incremental cost of €8,666). Sensitivity analysis confirmed the robustness of the base case, with incremental costs of infliximab-methotrexate ranging from €7,500 to €9,500. In order to equalize the costs per patient of these alternatives, the cost of acquisition of a package of Infliximab would have to decrease from the present €637.59 to a hypothetical cost of €33.10. **CONCLUSIONS:** The cost per patient of twelve months of treatment with the combination of infliximab-methotrexate is greater than that of leflunomide-methotrexate, due mainly to the higher acquisition cost of Infliximab.

PAR2

THE COST-EFFECTIVENESS ANALYSIS OF CELECOXIB AND NSAIDS WITH GASTROPROTECTIVE AGENTS FOR TREATMENT OF RHEUMATOID ARTHRITIS IN UKRAINE

Zaliska O
Lviv Medical University, Lviv, Ukraine

OBJECTIVES: To examine the sick rate of rheumatoid arthritis in Ukraine in 1996 to 2001. Celecoxib is a new COX-2-inhibitor drug. Randomized controlled clinical trials—RCCTs showed, that celecoxib is safer than non-steroidal anti-flammatory drugs (NSAIDs). To analyse direct medical costs for treatment celecoxib vs NSAIDs with gastroprotective agents in patients with rheumatoid arthritis from the perspective of public health care in Ukraine. **METHODS:** A decision tree model in Ukraine based on the use of clinical data from literature. Eight RCCTs showed a signifficantly higher incidence of ulcer—the 6-month rates of ulcer were 5,89% for NSAIDs vs 1,64% for celecoxib, and for NSAID plus proton-pump ingibitor (PPI)—1,94%. Only direct costs associated with three alternatives: celecoxib; NSAID only; NSAID plus PPI (six months) were analysed. All prices are expressed in Ukranian hryvnas (UAH). The incremental cost-effectiveness ratio was determined. **RESULTS:** The sick rate of rheumatoid arthritis from 1996 to 2001 was increased 8,6% per year in Ukraine. The direct costs of celebrex and NSAID only were comparable 905,4 UAH vs 897,5 (1USD = 5,2 UAH), but the NSAID plus PPI was significantly more costly 1216,1 UAH per one patient. The incremental cost-effectiveness ratio for celecoxib was 1,86 UAH; NSAID plus PPI—80,6 UAH per 1% of ulcer reduction. The total cost of 100 patients treated with celecoxib was 90540 UAH than NSAIDs plus PPI was 95822 UAH. The threshold analysis suggests that celecoxib would be the dominant therapy if its cost was to decrease by 58%. **CONCLUSIONS:** The treatment with Celecoxib is more effective and safe than NSAID only, and to be cost-effective than NSAID plus PPI in Ukraine.

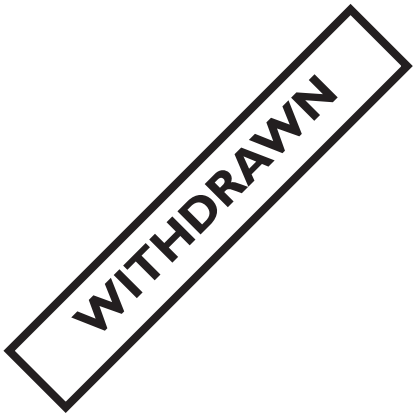
PAR3

VARIATION IN RESOURCE UTILIZATION AND TREATMENT COSTS FOR RHEUMATOID ARTHRITIS (RA) ACROSS 5 COUNTRIES IN AN ADALIMUMAB (D2E7) CLINICAL TRIAL

Van de Putte L[1], Bergemann R[2], Rosery H[2], Pang F[3], Dietz B[4], Kupper H[4], Ashraf T[5]
[1]University Hospital Nijmegen, Nijmegen, Netherlands; [2]Institute for Medical Outcome Research, Lorrach, Germany; [3]Abbott Laboratories UK Ltd, Maidenhead, Berkshire, United Kingdom; [4]Abbott GmbH & Co. KG, Ludwigshafen, Germany; [5]Abbott Laboratories, Chicago, IL, USA

OBJECTIVES: To investigate the variation in resource utilization and treatment costs for moderate to severe RA patients in five countries (Australia, Canada, France, Germany, UK). **METHODS:** Resource utilization was collected alongside a 6-month multinational phase-III clinical trial assessing the safety and efficacy of Adalimumab (D2E7), a fully human anti-TNF antibody, among 325 established RA patients who failed previously 3.7 DMARDs and had a 11-year mean disease duration (DE011/DE026). Data on 54 resource utilization items were collected including direct costs (e.g. hospitalizations, procedures, medications); direct non-medical costs (e.g. transportation, devices), and indirect costs (e.g. productivity loss, family support) during 12 months of living with RA. Resources were valuated using country-specific prices and standardized to 2001US$. A human-capital approach was employed to estimate productivity losses. **RESULTS:** Mean societal total cost was US$7174 (SEM471) per patient across all countries. However significant variation existed at the country-level. The UK had the highest societal total cost: US$9277 (SEM1876) followed by France US$9275 (SEM1155), Germany US$7448 (SEM951), Canada US$6347 (SEM855) and Australia US$5174 (SEM711). 95% of total costs were explained by direct costs in the UK compared to 70% in Germany, where lost productivity was a larger factor. Of direct costs, hospital inpatient costs contributed almost 44.5% (Germany), 40.3% (UK), 36.9% (Australia), 33.5% (France) and 13.1% (Canada). Medical to non-medical direct cost ratios varied from 1 : 1 in Australia to almost 1 : 2 in the UK. **CONCLUSIONS:** These results are consistent with the mean cost of US$6270 estimated from a systematic review of 11 US and 4 European studies (Cooper, Rheumatology 2000). Treatment costs are 2.5 times greater in this study of longstanding severe RA patients than in published studies of early RA patients. This study provides a comprehensive picture of healthcare services used for the treatment of RA patients and indicates that pronounced country differences exist.

PAR4



PAR5

DISEASE SEVERITY AND COSTS AMONG PATIENTS STARTING A TREATMENT WITH COX-2 SPECIFIC INHIBITORS VERSUS NSAIDS PATIENTS IN ITALY: QUANTITATIVE ASSESSMENT IN 442 PATIENTS WITH ARTHRITIS

Lucioni C[1], Chinellato A[2], Mazzi S[1], Roggeri D[3], Chiroli S[3]
[1]ADIS International, Milano, Italy; [2]Servizio Farmaceutico Territoriale, Treviso, Italy; [3]Pharmacia Italia SpA, Milano, Italy

OBJECTIVES: COX-2 inhibitors (COXIBs) have been introduced in Italy in September 2000. We investigated and identified differences in history of claims for gastrointestinal disorders (GIDs) between COXIBs vs NSAIDs patients. **METHODS:** Prescriptions of antinflammatories made by 200 GPs to a population of 24,428 arthritis patients in a Northern Italian area were retrospectively investigated, focused on the first six months of COXIBs availability (1st October 2000–31st March 2001). COXIBs were prescribed to 6,204 patients and NSAIDs to 18,224 patients. We extracted the data of all 442 COXIB patients who received a co-prescription (i.e.simultaneously prescribed at least once in the observation period) of a gastroprotective agent (GPA). COXIB + GPAs patients were compared to a sample of 442 NSAIDs + GPAs patients, matched for age and gender. The two groups were compared in terms of history of claims for GIDs, including GPA prescription, diagnostic procedures, and hospitalizations, occurred in the course of the previous 2 years (1st October 1998–30th September 2000). Reimbursed prices, for drugs, and tariffs paid by NHS, for procedures and hospitalizations, were used to calculate costs. **RESULTS:** Prior to starting their COX-2 treatment, 84% of COXIB + GPAs patients vs 79% of NSAIDs + GPAs patients had a history of GID with significantly higher ($p = .0026$, U test) mean costs (€554.9 vs €362.6). All cost items were higher in the former group: hospitalizations (€185.8 vs 76.8), procedures (€52.5 vs 43.2), GPAs (€316.6 vs 242.6). **CONCLU-**